

## Usability and the User

With all this attention placed on user experience, it's important to understand who exactly this "user" is. Although the typical user varies greatly depending on the web site, there are some generalizations that can be made to characterize the majority of web users.

You can think of visitors as being on a feverish search for information, functionality, or products. The visitor quickly scans a page's headers, links, and icons in search for something that remotely looks like it will take them to what they're searching for. They click the first promising link and scan the page. If there is nothing of interest on this new page, the visitor will click the Back button and continue his or her search.

In this rapid and hasty search process, instructions and long passages of text are often ignored. Users want to browse pages efficiently, and reading takes up valuable time. When a user visits your page, its functionality should be immediately clear. The visitor should be able to very quickly determine, "Does this web site have value to me? Can I use it to get what I want?"

Visitors are not going to read instructions on a web site; you must design for instant gratification.

- **Summarize:** Users hate to read. Pages should be easy to scan: use headings, lists, bold keywords, and short paragraphs. Write straightforward and informative headings and page titles.
- **Organize:** Your content should be structured to avoid long pages. Break up large articles of text into sub-pages, and provide an overview that explains the content in the separate parts.
- **Write succinctly:** Don't waste words or bloat the page with unnecessary flourishes.
- **Don't be too creative:** A unique look isn't always good. Conventional designs have the advantage of being familiar, thus reducing the time needed to get comfortable with the site.

### usability

The measure of how effectively a person can navigate an interface, find information on it, and achieve specific goals.

## Example: Admissions Page

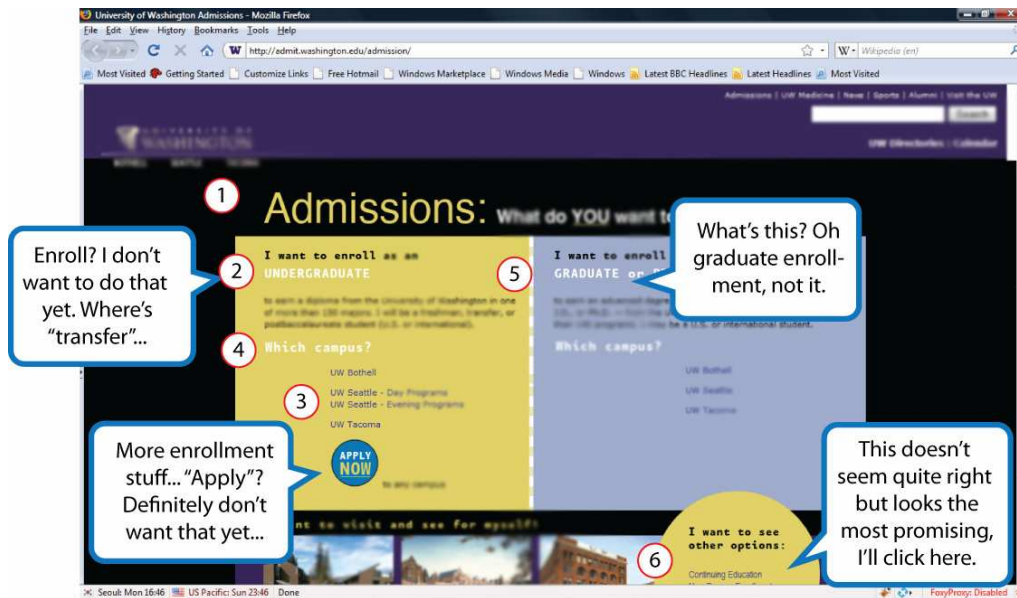
To give an example of usability, let's examine the differences between admission pages for the University of Washington (the authors' alma mater) and Washington State University, UW's rival.

Suppose we are a transfer student from a community college, trying to find what courses will transfer from our community college to these universities. UW's admission page is shown in Figure 12.1. The image is numbered in the order of what catches the eye first.

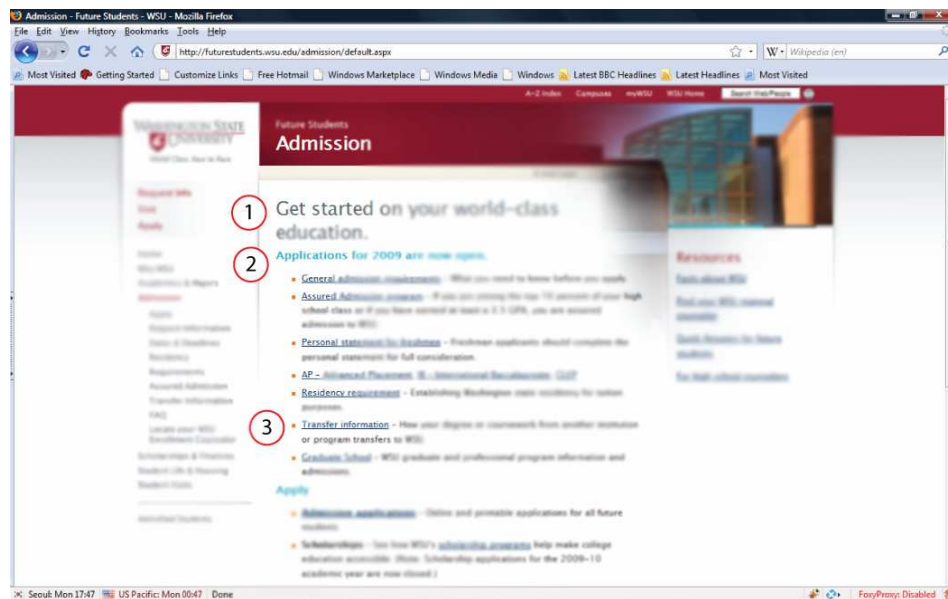
The first thing we focus on is "Admissions." From there our eye starts moving down the yellow column. We skim the column and infer that it's discussing undergraduate enrollment, and the column ends in a button to "Apply Now." We don't want to apply to UW yet; we just wanted to see what courses would transfer, so we start looking for an option for transfer students. The next column talks about graduate enrollment, which we skip, and then we see a circle for "other options." The list of other options doesn't match what we're looking for, but "Continuing Education" is the closest match, so we click that. This doesn't lead us to what we want, so we have to go back and try again.

Contrast UW's admissions page with WSU's admissions page shown in Figure 12.2. Navigating WSU's admissions page requires very little thinking. The titles are ordered naturally, so the eye flows from the first level heading to the subheading, down the bulleted list. Quickly skimming down this list shows us there's a link called "Transfer information." We click this link, and one of the first links on the page gives us "Transfer Course Equivalencies."

WSU's admission page has a clean, simple design. The colors have a nice contrast, and navigating the page is pleasant. Contrarily, it is a more cognitive process to find information from UW's admissions page. It has a more creative design, but as a result it's more confusing to navigate. It's not clear if the page will give us the information we are seeking, so we have to examine the page elements more carefully. Even when we settle on a link to click, the link takes us to the wrong page.



**Figure 12.1 University of Washington Admissions Page**



**Figure 12.2 Washington State University's Admissions Page**

From a usability standpoint, WSU is the clear winner over UW in this case. We hope that the usability of the admissions page is not a large factor in a student's college decision!

### 12.1.1 Page Layout

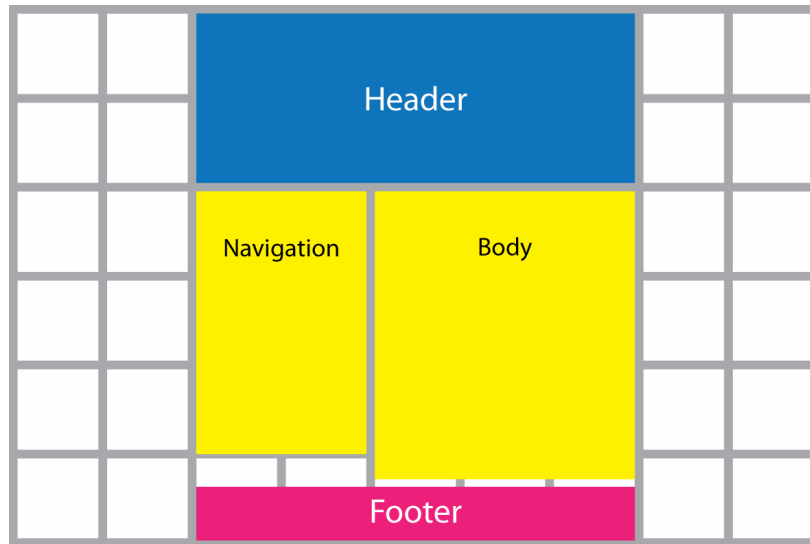
Much of the "feel" of your web site comes from the layout of your pages. A page that is clean, organized, and easy to navigate makes the visitor feel comfortable using your web site. A page that is confusing or chaotic makes the visitor feel impatient and frustrated.

Clutter is a large cause of visual distraction for visitors. Layouts look cluttered when there are too many things trying to draw the user's attention, resulting in a messy, confusing appearance. Haphazardly placed elements, distracting backgrounds, animations, and excessive use of graphics are all signs of clutter. Structure and organization are keys to creating a pleasant user experience.

## Grid-based Layout Design

Designing clean, organized layouts on a completely blank canvas can be difficult. Web pages often consist of several components (e.g. a header, footer, navigation bar, body), and figuring out how to size and place everything while keeping the layout organized is not an easy task.

One strategy is to design your layouts on a grid. Using a grid can help ensure your design stays organized and balanced, as the structure of a grid lends itself to organization. The locations and sizes of different components are also significantly narrowed down from the "blank canvas" approach so layouts can be designed faster. Figure 12.3 shows an example of this technique.



**Figure 12.3** Using a grid for layout design

The exact size and shape of your grid depends on your preference, though the columns should be evenly spaced and of equal size to each other (without being cut off at the edge). An excellent article discussing the specifics of grid design is listed in the resources.

## Screen Resolution

Screen resolution is another thing to keep in mind when designing a layout. Not every visitor of your site will have the same monitor size, so it is important to think about the layout width and how it looks on other screens. A layout that's too wide could result in ugly horizontal scrollbars. Using fluid layouts (sizes based on percentages and not exact numbers) can help avoid resolution problems.

Some designers don't like fluid layouts because they place difficult limitations on design. The vast majority of users on the web have a screen resolution of 1024x768 or higher, so many feel it is safe to use 1024px as a minimum expected screen width. A popular layout width is around 950px, since browsers need some extra pixels to accommodate the scrollbar.

## Design Inspiration

While web design is not entirely an art, it is still a skill that takes practice to perfect. One of the best ways to learn how to design a usable, visually appealing web site is from the sites that do it right. When you visit a web site with a layout you like, try to figure out what it is about the layout that strikes you as appealing. See how the web site differs from your own design and see how you could incorporate such elements in your own layouts.

Of course, we don't suggest you blatantly rip-off a web site's look and feel, but this technique can help quickly and rapidly improve your skills as a designer. Several web sites exist solely to showcase well-designed web sites, and some of their links can be found in the references.

## 12.1.2 Navigation and Links

Before anyone can use your application, they must be able to find it. Ambiguous or clunky navigation is a common source of frustration for visitors, as witnessed in our example earlier in the chapter. Here we list some commonly dreaded navigation schemes:

- **Frames:** Not only are frames ugly, out of date, and in compliant of W3C standards, they are a classic hallmark of an inexperienced web programmer. The only reason to use frames is when you actually want multiple web pages side by side, where the navigation of one frame is independent of the navigation of another. For example, the online API of several programming languages uses frames to separate function and class names from their documentation.
- **Splash screens:** A splash screen is a page that is shown before the user can access the actual main page of a web site. While there are certain cases where splash screens may be useful or even required by law (such as legal warning before a gambling web page), most of the time they just serve to annoy the visitor.
- **"Creative" navigation systems:** Navigation should be clear and easy to click. Do not try to make a game out of your navigation system. For example, horizontally scrolling layouts (as opposed to the standard vertically scrolling layouts) are inflexible and awkward. It minimizes the ability for users to scan the page and it doesn't take advantage of navigation shortcuts like the Page Down key or the scroll wheel on a mouse.

We have mentioned several times that it is a good idea to follow conventions when designing a web site. But how does a new web developer know what the conventions are?

### web pattern

A solution to a common software or design problem that is given a name.

There are groups and individuals who study design trends on the web. In software engineering, a *design pattern* is a solution to a common software problem in a certain context. *Web patterns* are a variant of design patterns that are specific to web sites. Studying web patterns can be a great way to find design solutions that fit the needs of your web site.

### Horizontal Menu

A horizontal menu is a form of main navigation. It is a bar placed at the top of a web page with links to major sections of the site, and it does not change in appearance between different pages.



**Figure 12.4: Horizontal menu on Barnes & Noble website**

It is good to have some indication of what is the currently selected page, and this should not be a clickable link. Links that go nowhere are pointless and misleading to the user.

The biggest drawback of using a horizontal menu is the limited number of items in the menu. Depending on the size of each menu item and the width of the layout, a horizontal menu will likely fit at most 6-8 items. This does not give much flexibility for expansion and requires you to maintain a fairly general information structure.

## Vertical Menu

A vertical menu is a vertical column placed on the side of a web page (usually the left) that serves as the source of main navigation for the page. When a vertical menu is used, the page has been split into at least 2 columns: one for the menu, the other for the rest of the page.



**Figure 12.5: Vertical Menu on Google News**

A vertical menu has some advantages over a horizontal one. It scales well because the navigation grows downward instead of horizontally, so there is not a limitation on the number of menu items. It is also next to the body of the page instead of on top of it, so the body is not pushed down and more body text is visible "above the fold," or in the top of the page that can be viewed without scrolling.

The disadvantages are perhaps obvious. The menu grows downward, so a long list of menu items may not be visible above the fold. If the selected item is below the fold as well, then the menu does not serve as good visual feedback for where the user is currently located.

## Fly-out Menu

A fly-out menu looks like a horizontal or vertical menu, but an additional submenu appears after hovering or clicking on a menu item. The navigation system is good for large web sites with hierarchical structures, and it is especially useful when there is limited space to devote to navigation.



**Figure 12.6: Fly-out menu on Amazon.com**

Fly-out menus also have their drawbacks. Individual items in the submenu may be hard to click if the submenus disappear after mouse out. Having multiple submenus is an especially bad idea because of the difficulty in clicking. Fly-out menus are space-efficient, but they also hide the majority of the navigation. It is important to make it clear that the fly-out menu is indeed a menu.

## Breadcrumbs

Breadcrumbs show a clickable path from the top level of the web site hierarchy to the current page. Breadcrumbs are not usually a form of main navigation, but can add unobtrusive usability to your site. They are a convenient way to let users know exactly where they are.

### breadcrumbs

A series of links to navigate between the current page and higher levels of a site.

**Figure 12.7: Breadcrumbs on Target.com**

The web patterns shown here are just the tip of the iceberg. The web is constantly evolving and new trends appear regularly. For more information, visit the links in the references section.